Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A high throughput method for identifying agents capable of producing a desired biological response in whole cells, the method comprising the steps of:

(a)   providing receptacles having a culture surface;

(b)   placing different mixtures comprising single said agents into selective ones of said receptacles according to a statistical design;

(c)   immobilizing said mixtures of single agents to said culture surface;

(d)   contacting said agents from (c) with said whole cells;

(e)   acquiring data indicative of said desired biological response in said contacted cells; and

(f) identifying which of said mixtures of single agents and/or which single agents in said mixtures are effective in producing said desired biological response in said contacted cells using statistical modeling of said acquired data.

2. (original) The method of claim 1, further comprising the step of placing single said agents into others of said receptacles.

3. (original) The method of claim 1, wherein said culture surface is coated with an agent-immobilizing material.

4. (cancelled)

5. (original) The method of claim 3, wherein said agent-immobilizing material contains reactive groups for covalently immobilizing said agents.

6. (original) The method of claim 3, wherein said agent-immobilizing material on said culture surface does not support cell adhesion.

7. (original) The method of claim 1, wherein said agents are cell adhesion ligands and/or extrinsic factors.

8.-10. (cancelled)

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11. (original) The method of claim 1, wherein said receptacles are wells of a 96-well plate.

12. (original) The method of claim 1, wherein the total concentration of said agents in each receptacle is the same.

13. (original) The method of claim 1, wherein the total concentration of said agents in each receptacle is different.

14. (original) The method of claim 1, wherein the concentration of a single said agent differs between said receptacles.

15. (cancelled)

16. (original) The method of claim 1, wherein said statistical design is a space-filling design based on a coverage criteria, a lattice design, or a latin square design.

17. (original) The method of claim 1, further comprising repeating said steps with a subset of said identified mixtures of single agents.

18. (original) The method of claim 1, further comprising repeating said steps, wherein the concentrations of agents in said identified mixtures are varied.

19. (original) The method of claim 1, wherein said statistical modeling is an algorithm for comparing said acquired data with the statistical design.

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